

**RoHS Compliant**

## APPROVAL SHEET

Issued No. : SLANT180901

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**DESCRIPTION** : Chip series antenna 2.4 GHz

Bandwidth 100MHz

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**NOMINAL FREQ.** : 2.4GHz

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**TAITIEN P/N** : ZL-T2450-ANT-20002

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**TAITIEN MODEL** :

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**REVISION** : 01

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**DATE** : 07/18/2018

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Manufacturer: LNT Electronic Technology Co. , Ltd.

Address: 3rd Floor, Unit 2, Building C2, Rongke Zhi gu, No. 555 Wenhua Avenue, Hongshan District, Wuhan City

# REVISION HISTORY

Rev.	Revised Page	Revision Content	Date	Ref. No.	Reviser
01	N/A	Initial Released	07/18/2018	N/A	Kenny

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1.SCOPE :This specification applies to Chip series antenna

2.Rating:

Operating Temperature :  $-25^{\circ}\text{C} \sim 125^{\circ}\text{C}$

Storage Temperature :  $20^{\circ}\text{C} \sim 25^{\circ}\text{C}$  R.H. 65% (For Reference)

3.Marking:



4.Standard Testing Condition:

	<b>Unless otherwise specified</b>	<b>In case of doubt</b>
<b>Humidity</b>	<b>Ordinary Humidity(25 to 85% RH)</b>	<b>60 to 70 % RH</b>
<b>Temperature</b>	<b>Ordinary Temperature(15 to 35°C)</b>	<b>20±2°C</b>

5.Configuration and Dimensions:

<b>Figure</b>	<b>Dimensions(mm)</b>	
	<b>L</b>	<b>2.0±0.15</b>
	<b>W</b>	<b>1.2±0.15</b>
	<b>T</b>	<b>0.5±0.1</b>

### **TERMINAL CONFIGURATION**



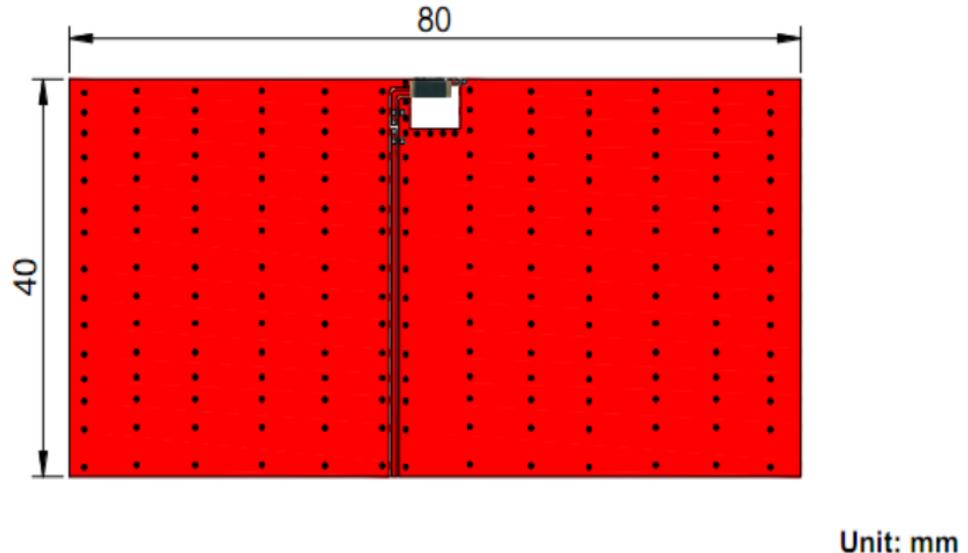
<b>No.</b>	<b>Terminal Name</b>
1	Feeding/GNG
2	GNG/Feeding

6. Electrical Characteristics:

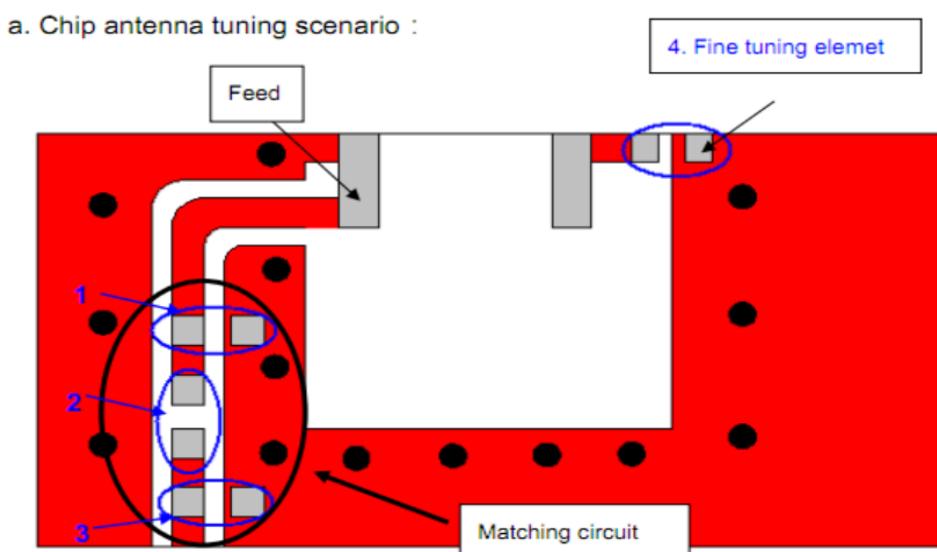
Part No.	Impedance ( $\Omega$ )	Test Freq. (GHz)	Bandwidth* (MHz)	Peak Gain* (dBi)	VSWR (max)	Polarization (Linear)
ZL-T2450-ANT-20002	50	2.4	100	1~2	2	Linear

7. Dimensions and Recommended PC Board Pattern:

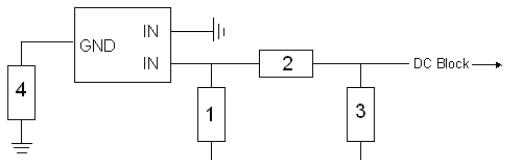
**Evaluation Board Dimension (board size 80x40mm)**



NOTE : Dimensions in mm

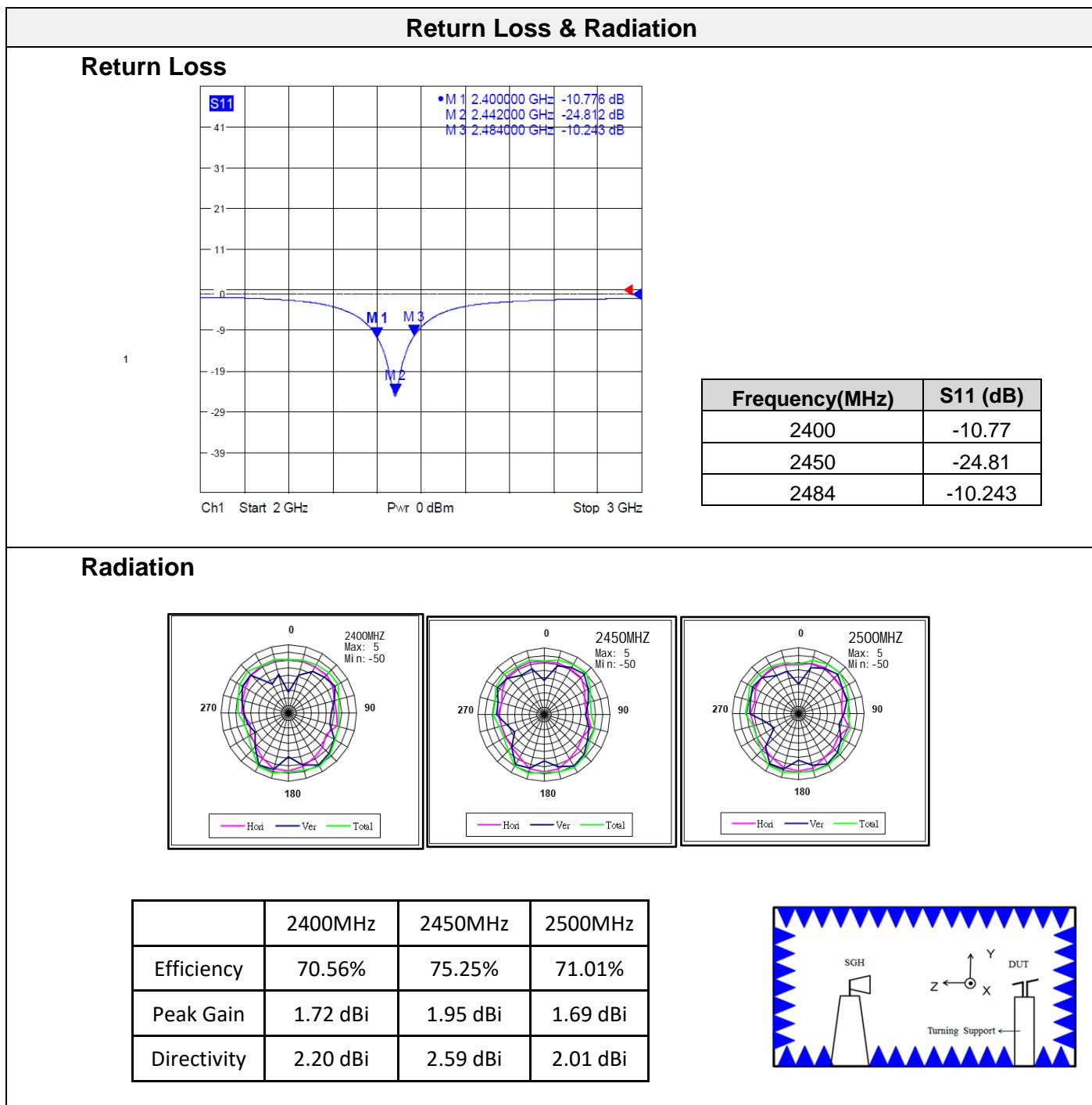


## 8. Matching Circuit:



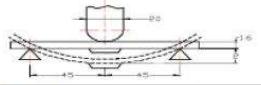
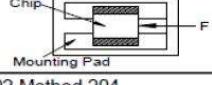
Location	Description	Vendor	Tolerance
1	1.2 pF*	Murata (0402)	$\pm 0.1$ pF
2	10PF*	Murata(0402)	$\pm 0.5$ PF
3	N/A*	-	-
Fine tuning element 4	10 pF*	Murata (0402)	$\pm 0.1$ pF

\*Typical reference values which may need to be changed when circuit boards or part vendors are different.



## 9. Dimensions and Recommended PC Board

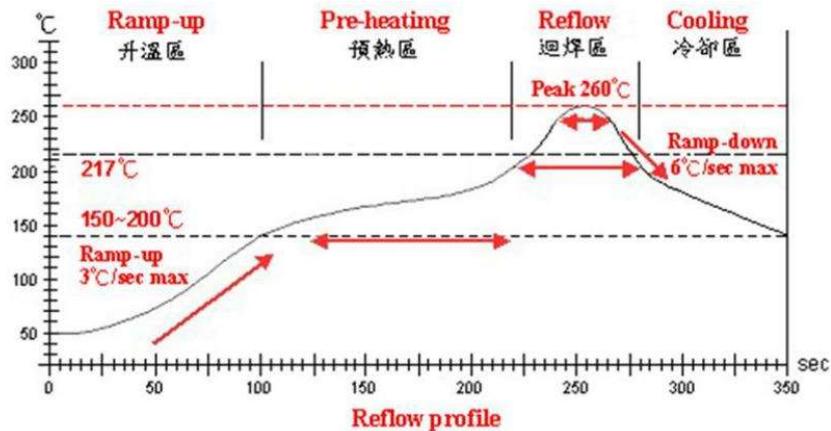
### 1-1. Mechanical Performance

No	Item	Specification	Test Method
1-1-1	Board Flex	The forces applied on the right conditions must not damage the terminal electrode and the ferrite	<p>Test device shall be soldered on the substrate  Substrate Dimension: 100x40x1.6mm  Deflection: 2.0mm  Keeping Time: 60 sec</p> 
1-1-2	Resistance to Soldering Heat	Meet the electrical Specification after test	<p>Refer to MIL-STD-202 Method 210  Pre-heating: 150-200°C, 60-100 sec  Above 217°C, 60-150 secs  Peak Temperature: 260±5°C, 20-40 sec  Cycles : 2 times</p>
1-1-3	Solder ability	The electrodes shall be at least 95% covered with new solder coating	<p>Refer to J-STD-002  Pre-heating: 150°C, 1min  Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free)  Solder Temperature: 245±5°C(Pb-Free)  Immersion Time: 4±1sec</p>
1-1-4	Terminal Strength Test	The chip must not damage the terminal electrode and the ferrite	<p>Test device shall be soldered on the substrate  Force 2N for 60±1 seconds for 0603 series  Force 5N for 60±1 seconds for 1005 series  Force 10N for 60±1 seconds for 1608 series  Force 1.8Kg for 60±1 seconds for the other series.</p> 
1-1-5	Vibration Test	Meet the electrical Specification after test	<p>Refer to MIL-STD-202 Method 204  Vibration waveform: Sine waveform  Vibration frequency: 10Hz~2000Hz  Vibration acceleration: 5g  10Hz~20KHz and back to 10Hz should be down in 20 minutes  Duration of test: 12 cycles each of 3 orientations, 20 minutes for each cycle, 12 hr total  Vibration axes: X, Y &amp; Z</p>
1-1-6	Resistance to Solvent	There must be no change in appearance or obliteration of marking	<p>Refer to MIL-STD-202 Method 215  Inductors must withstand 6 minutes of alcohol or water.</p>

## Dimensions and Recommended PC Board

### 1-2. Environmental Performance

No	Item	Specification	Test Method
1-2-1	Temperature Cycle	Meet the electrical Specification after test	Refer to JESD Method JA-104 Total cycles: 1000 cycles 30 minutes exposure to -40°C 30 minutes exposure to 125°C 1 min. maximum transition between temperatures  Measured after exposure in the room condition for 24hrs
1-2-2	Biased Humidity Resistance		Refer to MIL-STD-202 Method 103 Temperature: 85±2°C Relative Humidity: 85% / Time: 1000hrs  Measured after exposure in the room condition for 24hrs
1-2-3	High Temperature Exposure (Storage)		Refer to MIL-STD-202 Method 108 Temperature: 125±3°C / Relative Humidity: 0% Time: 1000hrs  Measured after exposure in the room condition for 24hrs
1-2-4	Low Temperature Exposure (Storage)	Meet the electrical Specification after test	Refer to MIL-STD-202 Method 108 Temperature: -40±3°C / Relative Humidity: 0% Applied Current: Rated Current/ Time: 1000hrs  Measured after exposure in the room condition for 24 hrs



### Lead-Free(LF) 標準溫度分析範圍

Refer to J-STD-020C

管制項目 Item.	升溫區 Ramp-up	預熱區 Pre-heating	迴焊區 Reflow	Peak Temp	冷卻區 Cooling
溫度範圍 Temp. scope	R.T. ~ 150°C	150°C ~ 200°C	217°C	260±5°C	Peak Temp. ~ 150°C
標準時間 Time spec.	—	60 ~ 180 sec	60 ~ 150 sec	20 ~ 40 sec	—
實際時間 Time result	—	75 ~ 100 sec	90 ~ 120 sec	20 ~ 35 sec	—

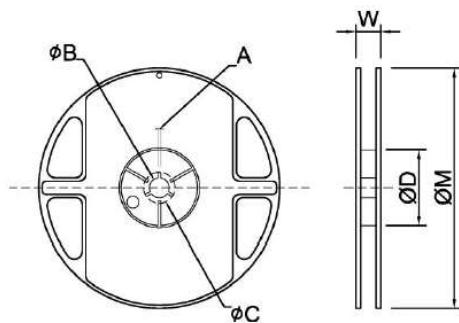
### NOTE :

1. Re-flow possible times : within 2 times
2. Nitrogen adopted is recommended while in re-flow

## 10. Packaging:

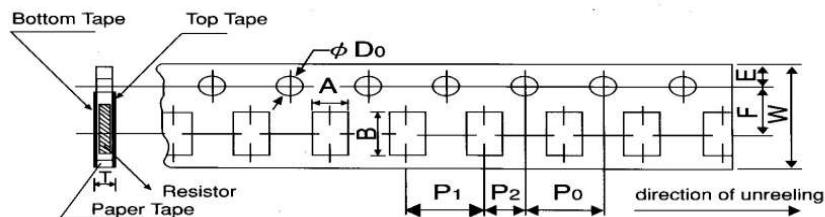
Packaging - Cover tape

### Reel Specification



TYPE	SIZE	A	φ B	φ C	φ D	W	φ M	
2012	7"	5K/Reel	2.0±0.5	13.5±1.0	21±1.0	60±1.0	11.5±2.0	178±2.0

### Taping Specification



Packing	Style	A	B	W	F	E	P <sub>1</sub>	P <sub>2</sub>	P <sub>0</sub>	D <sub>0</sub>	T
Paper	2012	1.6±0.15	2.4±0.2	8.0±0.2	3.5±0.05	1.75±0.1	4.0±0.1	2.0±0.05	4.0±0.1	ψ1.5 <sup>+0.1</sup> -0	0.84±0.1